

6550_000072 Sequence Listing ST25 5-24-06.txt
SEQUENCE LISTING

<110> Board of Trustees Operating Michigan State University
Allison, Richard F.

<120> Expression of a Recombinant Transgene.

<130> 6550-000072/US/NPB

<140> US 10/561,720

<141> 2005-12-22

<150> PCT/US04/21451

<151> 2004-07-02

<150> US 60/485,073

<151> 2003-07-03

<160> 15.

<170> PatentIn version 3.3

<210> 1

<211> 26

<212> DNA

<213> Cowpea chlorotic mottle virus

<400> 1
aagtggatcc cctcttgc ggctgc 26

<210> 2

<211> 16

<212> DNA

<213> Cowpea chlorotic mottle virus

<400> 2
actccaaaga gttctt 16

<210> 3

<211> 835

<212> DNA

<213> Cauliflower mosaic virus

<400> 3
agattaggcct tttcaatttc agaaagaatg ctaacccaca gatggtaga gaggcttacg 60
cagcaggct catcaagacg atctaccga gcaataatct ccagggaaatc aaataacctc
ccaagaaggt taaagatgca gtcaaaaatgat tcaggactaa ctgcataaag aacacagaga 120
aagatataatt tctcaagatc agaagtacta ttccagttatg gacgattcaa ggcttgcttc
acaaaccaag gcaagtaata gagattggag tctctaaaaa ggttagttccc actgaatcaa 180
aggccatgga gtcaaagatt caaatagagg acctaacaga actcgccgta aagactggcg 240
aacagttcat acagagtctc ttacgactca atgacaagaa gaaaatcttgcgtcaacatgg
tggagcacga cacacttgc tactccaaaa atatcaaaga tacagtctca gaagaccaaa 300
gggcaattga gactttcaa caaaggtaa tatccggaaa cctcctcgga ttccattgcc 360
cagctatctg tcactttatt gtgaagatag tggaaaagga aggtggctcc tacaaatgcc 420
atcattgcga taaaggaaag gccatcggtt aagatgcctc tgccgacagt ggtcccaaag 480
660

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atggacccccc	acccacgagg	agcatcgtgg	aaaaagaaga	cgttccaacc	acgtcttcaa	720
agcaagtgga	ttgatgtgat	atctccactg	acgtaaggga	tgacgcacaa	tcccactatc	780
cttcgcaaga	cccttcctct	atataaggaa	gttcatttca	tttggagaga	acacg	835

<210> 4
<211> 581
<212> DNA
<213> Encephalomyocarditis virus

<400> 4	aattccgccc	ctctccctcc	cccccccta	acgttactgg	ccgaagccgc	ttggaaataag	60
	gccgggtgtgc	gttgtctat	atgtgattt	ccaccatatt	gccgtctttt	ggcaatgtga	120
	gggccccgaa	acctggccct	gtcttcttga	cgagcattcc	taggggtctt	tcccctctcg	180
	ccaaaggaat	gcaaggctcg	ttgaatgtcg	tgaaggaagc	agttcctctg	gaagcttctt	240
	gaagacaaac	aacgtctgt	gcgacccttt	gcaggcagcg	gaacccccc	cctggcgaca	300
	ggtgccctcg	cggccaaaag	ccacgtgtat	aagatacacc	tgcaaaggcg	gcacaacccc	360
	agtgccacgt	tgtgagttgg	atagttgtgg	aaagagtcaa	atggctctcc	tcaagcgtat	420
	tcaacaaggg	gctgaaggat	gcccagaagg	tacccattt	tatggatct	gatctggggc	480
	ctcggtgcac	atgcttaca	tgtgttagt	cgaggttaaa	aaaacgtcta	ggccccccga	540
	accacgggga	cgtggtttc	cttgaaaaaa	cacgatgata	a		581

<210> 5
<211> 581
<212> RNA
<213> Encephalomyocarditis virus

<400> 5	aaauccgccc	cucuuccucc	cccccccuua	acguuacugg	ccgaagccgc	uuggaaauaag	60
	gccggugugc	guuugucua	auguguuuu	ccaccauauu	gccgucuuuu	ggcaauguga	120
	gggccccgaa	accuggccu	gcuuucuuga	cgagcauucc	uaggggucuu	cccccucuc	180
	ccaaaggaau	gcaaggucug	uugaaugucg	ugaaggaagc	aguuccucug	gaagcuucuu	240
	gaagacaaac	aacgucugua	gcgaccuuu	gcaggcagcg	gaacccccc	ccuggcgaca	300
	ggugccucug	cggccaaaag	ccacguguau	aagauacacc	ugcaaaggcg	gcacaacccc	360
	agugccacgu	ugugaguugg	auaguugugg	aaagagucaa	auggcucucc	ucaagcguau	420
	ucaacaaggg	gcugaaggau	gcccagaagg	uacccauug	uaugggaucu	gaucuggggc	480
	cucggugcac	augcuuuaca	uguguuuagu	cgagguuaaa	aaaacgucua	ggccccccga	540
	accacgggga	cgugguuuuc	cuuugaaaaa	cacgaugaua	a		581

<210> 6
<211> 581
<212> DNA
<213> Encephalomyocarditis virus

<400> 6	ttatcatcgt	gttttcaaa	ggaaaaccac	gtccccgtgg	ttcggggggc	ctagacgttt	60
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ttttaacctc gactaaacac atgtaaagca tgtgcaccga ggccccagat cagatcccat	120
acaatggggt accttctggg catccttcag ccccttgg aatacgcttg aggagagcca	180
tttgactctt tccacaacta tccaactcac aacgtggcac tggggttgtg ccgccttgc	240
aggtgtatct tatacacgtg gctttggcc gcagaggcac ctgtcgccag gtggggggtt	300
ccgctgcctg caaagggtcg ctacagacgt tggttgcattt caagaagctt ccagaggaac	360
tgcttccttc acgacattca acagacatttgcatttgcgcgaggggg aaagacccct	420
aggaatgctc gtcaagaaga cagggccagg ttccgggcccctcacattgc caaaagacgg	480
caatatggtg gaaaatcaca tatagacaaa cgcacaccgg ccttattcca agcggcttcg	540
gccagtaacg ttaggggggg gggagggaga ggggcggaat t	581

<210> 7
<211> 581
<212> RNA
<213> Encephalomyocarditis virus

<400> 7 uuaucaucgu guuuuuucaaa ggaaaaccac gucccccugg uucggggggc cuagacguuu	60
uuuuuaaccuc gacuaaacac auguaagca ugugcaccga ggccccagau cagauccau	120
acaauugggu accuucuggg cauccuucag ccccuuguug aauacgcuug aggagagcca	180
uuugacucuu uccacaacua uccaacucac aacguggcac uggttggugug ccgccuuugc	240
agguguaucu uauacacgug gcuuuuggcc gcagaggcac cugucgccag gugggggguu	300
ccgcugccug caaaggguug cuacagacgu uguuugucuu caagaagcui ccagaggaac	360
ugcuiuccuuc acgacauuca acagaccuug cauuccuuug gcgaggggg aaagacccu	420
aggaaugcuc gucaagaaga cagggccagg uuuccgggcccucacauugc caaaagacgg	480
caauauggug gaaaauacaca uauagacaaa cgcacaccgg ccuauuucca agcggcuucg	540
gccaguacg uuaggggggg gggagggaga ggggcggaau u	581

<210> 8
<211> 242
<212> DNA
<213> Cowpea chlorotic mottle virus

<400> 8 agtgcggct gaagagcgtt acactagtgt ggcctacttg aaggctagtt ataaccgttt	60
ctttaaacgg taatcgttgt tgaaacgtct tcctttaca agaggattga gctgccttg	120
ggtttactc cttgaaccct tcggaaagaac tctttggagt tcgtaccagt acctcacata	180
gtgaggtaat aagactggtg ggcagcgcct agtcgaaaga ctaggtgatc tctaaggaga	240
cc	242

<210> 9
<211> 242
<212> RNA
<213> Cowpea chlorotic mottle virus

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<400> 9
agugcccgcu gaagagcguu acacuagugu ggccuacuug aaggcuaguu auuaccguuu 60
cuuuuaaacgg uaaucguugu ugaaacgucu uccuuuuuaca agaggauuga gcugccuug 120
gguuuuuacuc cuugaacccu acggaagaac ucuuuggagu ucguaccagu accucacaua 180
gugagguaau aagacuggug ggcagcgccu agucgaaaga cuaggugaug ucuaaggaga 240
cc 242

<210> 10
<211> 242
<212> DNA
<213> Cowpea chlorotic mottle virus

<400> 10
ggtctcccta gagatcacct agtcttcga ctaggcgtcg cccaccagtc ttattacctc 60
actatgtgag gtactggtagt gaactccaaa gagttttcc gaagggttca aggagtaaaa 120
cccaaggcca gctcaatcct cttgtaaaag gaagacgttt caacaacgat taccgtttaa 180
agaaacggtt ataactagcc ttcaagttagg ccacactagt gtaacgctct tcagcgggca 240
ct 242

<210> 11
<211> 242
<212> RNA
<213> Cowpea chlorotic mottle virus

<400> 11
ggucuccuua gagaucacccu agucuuucga cuaggcgug cccaccaguc uuauuaccuc 60
acuaugugag guacugguac gaacuccaaa gaguucuucc gaaggguuca aggaguaaaa 120
cccaaggcca gcucaauccu cuugaaaaag gaagacguuu caacaacgau uaccguuuua 180
agaaacgguu auuacuagcc uucaaguagg ccacacuagu guaacgcucu ucagcgggca 240
cu 242

<210> 12
<211> 12
<212> DNA
<213> Artificial

<220>
<223> Artificial sequence used to show antisense relationship of a gene
and IRES to a promoter and viral 3' UTR

<220>
<221> misc_feature
<222> (1)..(3)
<223> n is a, c, g, or t

<400> 12
nnncatggaa tt 12

<210> 13
<211> 12

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<212> DNA
<213> Artificial

<220>
<223> Complement of artificial sequence used to show antisense
relationship of a gene and IRES to a promoter and viral 3' UTR

<220>
<221> misc_feature
<222> (10)..(12)
<223> n is a, c, g, or t

<400> 13
aattccatgn nn

12

<210> 14
<211> 12
<212> RNA
<213> Artificial

<220>
<223> Transcript of RNA polymerase

<220>
<221> misc_feature
<222> (1)..(3)
<223> n is a, c, g, or u

<400> 14
nnncauggaa uu

12

<210> 15
<211> 12
<212> RNA
<213> Artificial

<220>
<223> Complement of transcript of RNA polymerase

<220>
<221> misc_feature
<222> (10)..(12)
<223> n is a, c, g, or u

<400> 15
aauuccaugh nn

12